

Arjun Panse

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EDUCATION

Savitribai Phule Pune University

B.E. in Information Technology | GPA: 9.2/10.0 | College Rank: 2

Pune, India
Sept. 2024 – May 2027

Government Polytechnic Pune

Diploma in Computer Engineering | GPA: 9.52/10.0

Pune, India
Aug. 2021 – May 2024

TECHNICAL SKILLS

Languages: Python, Java, C++, C, SQL, JavaScript, HTML, CSS

ML / AI: LLMs, NLP, Deep Learning, RAG, Computer Vision, RL (PPO, Q-Learning), Fine-tuning, BERT, GPT, BART, LSTM, CNN

Frameworks: PyTorch, TensorFlow, Keras, Hugging Face, LangChain, Scikit-learn, Spring Boot, Node.js, React, FastAPI

Databases & Tools: MySQL, PostgreSQL, MongoDB, Redis, FAISS, Neo4j, Docker, Git, CI/CD, Linux

PROFESSIONAL EXPERIENCE

The Bodhi Tree

Artificial Intelligence Engineer Intern

Remote
Sept. 2025 – Feb. 2026

- Built end-to-end multimodal RAG pipelines (text, image, audio) using LangChain and FAISS with optimized chunk embeddings and hybrid retrieval; developed BERT/GPT-based NLP models with custom attention for emotion-aware sentiment analysis via PyTorch and Hugging Face fine-tuning
- Maintained production ML pipelines covering preprocessing, feature engineering, hyperparameter tuning, and evaluation; integrated computer vision and speech processing modules into a unified multimodal inference system

Defence Research and Development Organisation

Defence Research and Development Organisation — Defence Institute of Advanced Technology (DIAT)

Pune, India

Artificial Intelligence Research Intern

2026 – Present

- Working on applied AI integration into defence systems as part of an ongoing initiative to modernize and "AI-fy" core defense technologies, translating research-stage models into deployment-ready capabilities
- Collaborating with defence-technology researchers at DIAT to evaluate and prototype AI-driven approaches for next-generation defense systems

PES Modern College of Engineering

Research Intern

Pune, India
2026 – Present

- Leading research on *AI-Enabled Microplastic Detection in Water Using Computer Vision, Machine Learning, and IoT Technologies*, building a YOLO-based object detection pipeline for real-time identification of microplastic particles
- Deploying and optimizing the detection pipeline on an NVIDIA Jetson Nano for low-power, edge-based inference suited to field water-quality monitoring

TECHNICAL PROJECTS

Chakra — Self-Learning Curriculum Engine for LLMs — github.com/AP2611/Chakra_final

Oct. 2025 – Jan. 2026

- Autonomous RL framework built around PPO and policy gradients that lets LLMs self-evaluate their own outputs and generate adaptive training curricula without human annotation, identifying model weaknesses at inference time
- Designed a multi-agent critique loop where a dedicated evaluator agent scores generations and feeds structured feedback into the policy update cycle, driving continuous self-improvement on benchmark NLP tasks. *Python, PyTorch, Hugging Face, PPO, Q-Learning*

Briefly — AI Discord Bot for Abstractive Summarization — github.com/AP2611/Briefly

Apr.–May 2025

- Discord bot generating genuine abstractive (not extractive) summaries of high-volume, branching message threads using BART transformers, preserving context across concurrent conversations
- Engineered for production-grade performance with a Redis caching layer to eliminate redundant inference and a multi-threaded async pipeline for low-latency, concurrent summarization requests. *Python, BART, Redis, Discord API*

Jalsakhi — AI-Powered Precision Agriculture Platform — github.com/AP2611/jalsakhi

Jan. 2026 – Mar. 2026

- Built a microservices platform for rural farming communities with four independently deployable FastAPI ML inference services covering soil health analysis, weather pattern modeling, irrigation optimization, and crop advisory
- Unified the services behind a Node.js API gateway and a React Native (Expo + TypeScript) mobile front end, fully Dockerized with a CI-ready architecture; Finalist at India Innovates 2026 among 10M+ registered teams. *FastAPI, Node.js, MongoDB Atlas, React Native, Docker*

EXTRACURRICULAR ACTIVITIES

- General Secretary – PES Modern College of Engineering
- Vice President – App Club, PES Modern College of Engg.
- Finalist – India Innovates 2026 (top 5,000 / 10M)
- Finalist – Vaadsabha National Level Debate, SP College
- Membership Head – IEEE PES MCOE Student Branch
- Event Management Team – IEEE Pune Section
- Finalist – Tata Motors Hackathon 2025